Supreme Court of the United States

OCTOBER TERM, 1925

No. ~~201~~ 47

SAMUEL W. LAMBERT

Appellant

against

EDWARD C. YELLOWLEY, as Acting Federal Prohibition Director; DAVID H. BLAIR, as Commissioner of Internal Revenue, and EMORY R. BUCKNER, as United States Attorney for the Southern District of New York

Appellees

APPELLANT'S REPLY BRIEF

JOSEPH S. AUERBACH
Attorney for Appellant

JOSEPH S. AUERBACH
MARTIN A. SCHENCK
EMILY C. HOLT
Of Counsel

INDEX

INDEX TO CASES.

INDEX TO STATUTES.

IN THE

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SAMUEL W. LAMBERT, Appellant, v. EDWARD C. YELLOWLEY, as Acting Federal Prohibition Director; DAVID H. BLAIR, as Commissioner of Internal Revenue, and EMORY R. BUCKNER, as United States Attorney for the Southern District of New York, Appellees.	No. 301.

APPELLANT'S REPLY BRIEF.

POINT I.

The question presented by this appeal is new and has not been before determined by this Court.

The Circuit Court of Appeals, at folio 48, stated that the real question in this case is "the validity of the prohibition acts as they affect the right of a medical practitioner to prescribe spirituous or vinous liquors in the treatment of diseases." The Court held that this was a new question (fol. 51). The case presents the right of a medical practitioner to prescribe, and the right of his patient to receive, medicine in accordance with fair medi-

cal practice and in accordance with the judgment of the physician that such medicine is necessary for the cure of the patient from some known ailment. Generally stated, the case directly presents the question as to whether a health statute can impair the health of the individual because of matters involving convenience of enforcement.

The Government's brief urges, as does the brief submitted on behalf of Messrs. Wheeler and Dunford, as *amici curiae*, that the questions presented by this appeal have before been determined by this Court. The Government's brief further alleges that Dr. Lambert submitted a brief as *amicus curiae* in the case of *Everard Breweries* v. *Day*, 265 U. S., 545; that his present arguments were submitted to this Court in that case, and that the determination of this Court thereon constitutes his answer. The brief of Dr. Lambert, however, was submitted as *amicus curiae* in *Everard Breweries* v. *Day* with the express purpose of drawing a distinction between that case and the case at bar, and in an effort to preserve the question in the case at bar from a prior decision therein. The question, we respectfully submit, has been thus preserved. This Court therein drew a distinction between the manner in which malt liquor was treated by Congress from the manner in which spirituous liquor was treated in the present instance. The very recognition of prescription in the one case was made the basis for the prohibition of prescription in the other.

Furthermore, the case of *Everard Breweries* v. *Day* presented the constitutional question from the standpoint of a manufacturer. Whatever incidental right to practise medicine might be said to have been involved was purely from that remoteness. No physician came before the Court, sustained under fair medical practice and with his trained professional judgment conceded by the Gov-

ernment under the assertion of necessity of prescription as distinguished from mere usefulness or convenience.

As Mr. Justice Holmes said in *Quong Wing* v. *Kirkendall*, 223 U. S., 59, at 64:

> "Laws frequently are enforced which the Court recognizes as possibly or probably invalid if attacked by a different interest or in a different way." (Quoted and reaffirmed by Mr. Justice Butler in *Weaver* v. *Palmer Bros. Co.*, decided March 8, 1926, U. S. Advance Op. No. 10, p. 366, at 369.)

POINT II.

The two elements decisive in this case have recently been determined in this Court in favor of appellant's contentions.

The brief for the Government, and also the brief of Messrs. Wheeler and Dunford as *amici curiae*, discuss the subject as if it fell under ordinary implied enforcement powers of Congress. Many decisions applying general and somewhat varying measures of appropriateness and reasonableness are in this connection referred to by them. But the subject is not so broad. In the specific situation presented this Court has formulated a more definite rule.

(a) *Direct control of medical practice in the States is beyond the power of the Federal Government.*

In *Linder* v. *United States*, 268 U. S., 5, this Court, at page 18, said:

> "Obviously, direct control of medical practice in the States is beyond the power of the Federal Government."

(b) *Where the subject is beyond the control of Congress, it does not yield to mere convenience in the enforcement of other powers.*

In *Schlesinger* v. *Wisconsin* (decided March 1, 1926, U. S. Supreme Court Advance Opinions No. 9, p. 301), this Court, per Mr. Justice McReynolds, at page 303, said:

> "The presumption and consequent taxation are defended upon the theory that, exercising judgment and discretion, the Legislature found them necessary in order to prevent evasion of inheritance taxes. That is to say, 'A' may be required to submit to an enactment forbidden by the Constitution if this seems necessary in order to enable the State readily to collect lawful charges against 'B'. *Rights guaranteed by the Federal Constitution are not to be so lightly treated; they are superior to this supposed necessity.*"

In the case at bar, when "A" is ill, and for his cure concededly requires, in accordance with fair medical practice and in accordance with his physician's trained judgment, more than a pint of spirituous liquor within ten days for his cure, it is contended that Congress (although the subject is within the control of the States) may injure "A" and deprive him of that medicine if it seems necessary in order to enable the Federal Government to enforce a health statute against "B." The principle so clearly stated by Mr. Justice McReynolds in regard to the taxing power would seem to be peculiarly applicable to health legislation. The life and health of "A" should not be destroyed or impaired in order to enforce the statute against "B." *"Rights guaranteed by the Federal Constitution are not to be so lightly treated; they are superior to this supposed necessity."*

This, which is really the determining rule in the case at bar, was reaffirmed by this Court per Mr. Justice Butler in *Weaver* v. *Palmer Bros. Company* (decided March 8, 1926, U. S. Supreme Court Court Advance Opinions No.

10, p. 366), wherein a statute of Pennsylvania prohibiting the use of shoddy in the manufacture of mattresses was held unconstitutional. The facts establishing the arbitrariness and unreasonableness of the Legislature in its prohibition, as distinguished from its regulation in the matter, were before this Court on evidence and on judicial notice, as they are before this Court in the case at bar on judicial notice and on the admissions of the Government of the allegations of the complaint. It was claimed in defense of the legislation that it was a necessary enforcement feature in the prevention of deception and in the protection of health. This Court held that regulations rather than prohibitions obviously could be effectively applied; and, at page 369, said:

> "Constitutional guarantees may not be made to yield to mere convenience. *Schlesinger* v. *Wisconsin*, decided March 1, 1926, U. S. . The business here involved is legitimate and useful; and while it is subject to reasonable regulation, the absolute prohibition of the use of shoddy in the manufacture of comfortables is purely arbitrary and violates the due process clause of the fourteenth amendment."

POINT III.

The legislative experience of the several states in regard to medical prescription of liquor is no justification for the control of medicine in this respect by Congress.

The Government argues that Congress, in prohibiting more than one pint of spirituous liquor in ten days, must have investigated the necessity of such prohibition, because it must have had before it the experience of the

several States upon the subject. The argument cuts another way. If the experience of the States was clear on the subject of medical practice, it is significant that the Eighteenth Amendment, using the term "beverage purpose" (as distinguished from medical use), delegated no power to Congress on the subject. The presumption is thus strengthened that the intent was for the States to continue to deal with medical practice in this respect, and that it remained a matter wholly within their control and beyond Federal control.

POINT IV.

The provisions of the statute complained of, prohibiting more than one pint of spirituous liquor in ten days, are no less prohibitions of medicine because legislative (as distinguished from medical) substitutes are allowed.

The complainant alleges, and the Government admits, that it is the belief and judgment of the complainant, based upon his experience and observations in the study of medical science,

> "that the use as a medicine of *spirituous liquors* to be taken internally is, in certain cases, *necessary* for the proper treatment of patients, in order to afford relief from known ailments. By spirituous liquors, complainant means liquors containing more than one-half of one per cent. of alcohol by volume, including brandy, whisky and wine" (Complaint, Paragraph Eighth, fol. 7).

The complainant alleges, and the Government admits, that it is the belief of the complainant, based upon his experience and observations in the study of medical science,

> "that in the use of *spirituous liquors* as medicine, it is, in certain cases, including cases now under complainant's observations and subject to his professional advice, it is *necessary*, in order to afford relief from known ailments, that the patients should use internally more than one pint of *such liquor* in ten days, and that it is, in certain cases, *necessary* for proper medical treatment that the patient should use internally some spirituous liquor without delay, notwithstanding that within a preceding period of less than ten days the patient may have received and used more than one pint of *such liquor*" (Complaint, Paragraph Ninth, fol. 7).

Congress has conceded (and the Government admits) the therapeutic use of alcoholic liquor. But it is the main contention of the Government in support of the reasonableness of prohibition that other medicines may be used as substitutes provided they be either patent medicines (and thus of a content unknown to the prescribing physician), or provided the physician himself adds drugs to them so as to make them distasteful to the patient. The extent of this distaste, and whether it must proceed to the extent of pain or injury, or, in the case of the delicate, to the extent that the system may not retain the medicine, is not stated. We shall not discuss the reasonableness of the claimed substitutes; nor shall we attack or defend the reasonableness of Congress in prohibiting a reputable physician from following his trained opinion and in attempting to compel him to follow the secret formulæ of quacks. Neither is it to the point that all of these claimed substitutes are confessed expedients in evasion of the statute itself. *Price* v. *Russell*, 296 F. 263, 267. The complaint of Dr. Lambert is to the *necessity* of the prescription of *spirituous liquor* in excess of the pint per ten days. That

necessity, admitted herein by the Government, is predicated upon the *inadequacy of any substitute whatsoever*, whether patent medicine, secretly manufactured by quacks, or mixtures of alcohol and drugs to be compounded by Dr. Lambert himself.

It would seem that the unreasonableness of the prohibition under these circumstances is emphasized by not only the unreasonableness of claiming substitutes, but by the unreasonableness of the substitutes themselves. If a physician may be trusted to compound an unpalatable mixture for a dying man, he should be trusted to give him a medicine calculated for his cure.

Even if, as urged upon the Government's brief at page 8, there were no limit placed upon the amount of liquor which a physician may prescribe for a patient who is in a hospital, the unreasonableness of the legislation would be emphasized rather than extenuated. Hospitals are not universally available nor are the sick in all circumstances in a condition of health for transfer to or in a financial condition for maintenance in a hospital. But the Government's claim is mistaken. Section 6 of Title II, N. P. A., makes no general exception in favor of a hospital but only of a hospital or sanatorium *engaged in the treatment of persons suffering from alcoholism.*"

Respectfully submitted,

JOSEPH S. AUERBACH,
Attorney for Appellant.

JOSEPH S. AUERBACH,
MARTIN A. SCHENCK,
EMILY C. HOLT,
Of Counsel.

No. 30-47

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BRIEF OF AMERICAN MEDICAL ASSOCIATION AS *AMICUS CURIAE*.

WILLIAM C. WOODWARD,
Of Counsel.

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INDEX.

Index to Cases.

Index to Medical Data.

SUPREME COURT OF THE UNITED STATES,

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No. 301.

BRIEF OF AMERICAN MEDICAL ASSOCIATION AS AMICUS CURIAE.

STATUS OF AMERICAN MEDICAL ASSOCIATION IN THIS CONTROVERSY.

The appellant, Samuel W. Lambert, is a member of the American Medical Association. Although he brings this appeal in his individual capacity, the Court's decision will affect the rights of every member of the Association. Moreover, the American Medical Association became additionally interested in this case when the court below based its decision in part on a resolution adopted by the House of Delegates of the American Medical Association in 1917, setting forth that resolution at length in connection with its opinion (*Lambert* v.

Yellowley, 4 Fed. (2d) 915, at p. 921). The American Medical Association has asked and obtained leave of court to submit this brief. If in some places this brief seems to speak on behalf of the patient rather than the physician, it is because the interests of the patient and the interests of the physician are inseparable. The Association craves the indulgence of the Court, therefore, if at times the interests of the patient be too prominently discussed. He is after all the chief sufferer if any wrong has been done by the legislation here complained of.

The Association, therefore, welcomes the opportunity to urge upon the Court that section 7 of the National Prohibition Act and the corresponding section of the Willis-Campbell Act, under the rule laid down by this Court, fail to conform to the test of reasonableness and lack of arbitrariness, and are accordingly unconstitutional.

The American Medical Association is a federacy of 53 State and Territorial Medical Associations, including associations in the Canal Zone, the Philippine Islands, and Porto Rico. Membership in any such association carries with it membership in the American Medical Association. Active membership is limited to physicians authorized by law to practice medicine. The American Medical Association was organized in 1847. It is now incorporated under the Laws of the State of Illinois. Its objects are to promote the science and art of medicine and the betterment of public health. Its representative character is to be found in the fact that out of 150,000 physicians licensed to practice medicine in the United States and to practice as commissioned officers in the Army, Navy, and Public Health Service, 91,000 are members of the Association.

Grievances from which Physicians Seek Relief.

The National Prohibition Act and the Act supplemental thereto impose certain prohibitions on physicians that are not imposed on other persons, having reference solely to the medicinal use of liquor. These prohibitions deny to the physician the right to follow his calling according to his best professional judgment and according to his conscience. They discriminate against the use of liquor for medicinal purposes as compared with its use for sacramental and industrial purposes. They are believed to be arbitrary and unreasonable, and therefore, unconstitutional and void. The prohibitions complained of are as follows:

> 1. No physician may prescribe more than one pint of spirituous liquor to be used by a patient within any period of ten days. Section 7, Title II, National Prohibition Act, 41 Stat. 305.
>
> 2. No physician may prescribe any vinous liquor that contains more than 24% of alcohol by volume, nor prescribe more than one quarter of one gallon of vinous liquor, or any such vinous or spirituous liquor that contains separately or in the aggregate more than a half-pint of alcohol, for use by any person within any period of ten days. Section 2, Act Supplemental to National Prohibition Act, 42 Stat. 222.

Attitude of American Medical Association with Respect to Medicinal Use of Liquor.

It would be unnecessary to define the position of the American Medical Association with respect to the medicinal use of liquor, had not the matter been made material in the Court below. The Court said:

> "The fact may also be noted that whether or not whiskey, wine or beer has a therapeutic value in the treatment of disease is a very much disputed question in the medical profession. *In the year 1917 the American Medical Association, which has a membership of 150,000 physicians, passed a resolution discouraging the use of alcohol as a therapeutic agent, which resolution is in the margin.*"
>
> *Lambert* v. *Yellowley*, 4 F. (2d) 915, at page 921.

The resolution set forth in the margin reads as follows:

> "Whereas, we believe that the use of alcohol as a beverage is detrimental to human economy, and
>
> "Whereas, its use in therapeutics, as a tonic or as a stimulant or as a food has no scientific basis, therefore, be it
>
> "Resolved, that the American Medical Association opposes the use of alcohol as a beverage, and be it further
>
> "Resolved, that the use of alcohol as a therapeutic agent should be discouraged."

It is unfortunate that the resolution adopted by the American Medical Association in 1917 should have been used by the Court below as one of the circumstances on which to base its decision and should have been deemed of even sufficient moment to incorporate in its opinion. That resolution was impliedly repudiated in 1921 and 1922, and was at least hardly in harmony with the resolution adopted by the Association in 1924. But at most the resolution of 1917, on which the court relied, does not deny the therapeutic value of alcohol. It denies merely that its therapeutic use has a *scientific* basis. As to the empirical basis, the resolution is silent. The resolution merely "discourages" the use of alcohol—apparently

because of the then absence of a *scientific* basis for it—but this is not a denial of any therapeutic need for it whatsoever. The little importance attached to the resolution by the American Medical Association itself is shown by the fact that at the very time it was adopted the Association was including alcohol in its "Handbook of Useful Drugs," issued by its Council on Pharmacy and Chemistry, and notwithstanding the resolution it continued to include alcohol in that list. The sixth edition, 1923, says:

> "Internally, alcohol is a narcotic; excessive doses depress and paralyze the central nervous system. Small doses produce euphoria, stimulate respiration, moderately dilate the cutaneous and splanchnic vessels and modify the circulation. It is burned in the body and thus serves to a restricted extent as a source of energy.
>
> "Alcohol is employed as a diffusible stimulant, diaphoretic and hypnotic. In well-selected cases, especially in patients accustomed to its use, it may be very valuable; otherwise it is apt to do more harm than good. In practice it is usually administered in the form of whiskey, brandy, wine or other alcohol-containing beverages." (*Useful Drugs*, 6th ed., 1923, p. 21.)

Any possible force attached to the resolution of 1917 originally seems to have been lost in 1921, when the House of Delegates refused to reaffirm the judgment expressed in it. *Proceedings, House of Delegates, A. M. A.*, 1921, p. 42. And in 1922, the Council on Scientific Assembly, to which the matter of reaffirming that judgment had been referred, reported:

> "The Council deems it unwise to attempt to determine moot, scientific questions by resolution or by vote and recommends that the House of Delegates shall take no action at this time on the question of the therapeutic value of alcohol."
>
> *Proceedings, House of Delegates, A. M. A.*, 1922, p. 34."

And accordingly the House took no action. The House had been asked to reiterate and reaffirm the judgment expressed in its resolution of 1917. It refused to do so. It thereby impliedly repudiated that judgment.

Inasmuch as the court below laid so much stress on the attitude of the American Medical Association with respect to this matter, it seems proper that this Court should be informed as to that attitude as set forth in resolutions adopted in 1924 and 1925. These resolutions are as follows:

Resolution adopted in 1924.

"Resolved, that the House of Delegates of the American Medical Association expresses its disapproval of those portions of the National Prohibition Acts which interfere with the proper relation between the physician and his patient in prescribing alcohol medicinally; be it further

"Resolved, that the House of Delegates of the American Medical Association instruct the Board of Trustees to use its best endeavor to have repealed such sections of the National Prohibition Acts as are in conflict with the above resolution and also use their best endeavor to have the Commissioner of Internal Revenue and the Prohibition Commissioner issue revised instruction on the use of the prescribing of alcoholic liquors for medicinal purposes by physicians."

Proceedings, House of Delegates, A. M. A., 1924, page 37.

Resolution adopted in 1925.

"Resolved, in view of the fact that such portions of the Volstead Act and the amendatory acts may be declared unconstitutional, that, as a substitute therefor, regulations should be forthwith drafted by the Prohibition Department to the end that the present abuses may be abated, and existing prohibitions as to the practice of medicine removed; and that this Association use all means

within its power looking to the preliminary approval of such regulations by the Prohibition Department and the Commissioner of Internal Revenue; and be it further

"Resolved, that the Board of Trustees be directed to appoint a committee to cooperate with the Commissioner of Internal Revenue and the Secretary of the Treasury in the formulation of such regulations as under the National Prohibition Act, as amended, as may be necessary to carry said Act into effect, so far as the medicinal use of liquor is concerned."

Proceedings, House of Delegates, A. M. A., 1925, pp. 34-35.

Pursuant to the resolution last set forth, the Board of Trustees appointed a committee to formulate the proposed regulations, and those regulations, duly approved by the Board of Trustees, have been submitted to the Treasury Department. They are as follows:

1. That the following regulations be approved by the Board of Trustees to govern the prescribing and dispensing of liquor in event the quantitative limitations under the National Prohibition Act as amended be declared unconstitutional by the U. S. Supreme Court:

a. Any physician prescribing more than one pint of liquor in thirty days to the same patient shall issue a certificate to accompany said prescription and be necessary to its validity, that the excess prescribed for is in the judgment of the prescribing physician a medical necessity; and the prescribing physician shall forthwith mail or deliver a copy of said certificate to the prohibition administrator of the district in which said prescription is to be filled.

b. That any person to whom a pharmacist delivers liquor called for by any prescription be re-

quired by the pharmacist to pledge himself in writing on the prescription blank, that in so far as lies in his power to prevent it, no part of any such liquor will be used for other than lawful medicinal purposes.

The Medicinal Value of Liquor is not Called into Question in this Case, nor is it Material.

It is conceived that the value of liquor as a medicinal agent is not debatable in this case. The case arises under the National Prohibition Act and an Act supplemental thereto. Those Acts both concede the value of liquor as a medicinal agent when they specifically permit and regulate its use.

Dosage.

The problem of dosage is that of getting the needed medicine into the tissues of the patient through the circulating blood and keeping it there in sufficient quantities for a sufficient time to produce the desired result. This depends on the power of the body to absorb, assimilate and react to, and excrete the medicine. Obviously, these conditions are not subject to control by any act of Congress or even by any constitutional amendment. If it be deemed necessary to limit by law the dosage of any lawful medicine such limitation should be made with due regard to the welfare of the sick as well as the welfare of the rest of the community. The limitations on dosage of which complaint is now made seem to be defective in this respect. They seem to have no foundation in scientific observation or in experience as will be explained at length later. They are, it is believed arbitrary and unreasonable.

The Maximum Statutory Doses of Liquor Allowed by Law, of which Complaint is Made, Have no Relation to the Medical Needs of the Sick.

The National Prohibition Act and the act supplemental thereto limit the quantity of liquor that may be used medicinally. They provide that (1) in any ten-day period, (2) not more than one pint of spirituous liquor, nor more than one quart of vinous liquor, nor any combination of these containing more than one-half pint of alcohol, shall be administered (3) to any one patient. The Commissioner of Internal Revenue construes the limits to cover all alcohol to be used for internal *and external* use. (Section 1403, Regulation 60, relative to intoxicating liquor, promulgated by the Commissioner of Internal Revenue, March 14, 1924.) These limits apply to all alcohol intended for medicinal use internally, unless it is medicated so as to render it impracticable to use it for beverage purposes; that is, the limits cannot be evaded by prescribing some medicated compound of alcohol, wine, whiskey or brandy, since the drug used for medicating it might work disaster to the patient. So strict are the quantitative limitations that no provision is made even whereby a patient whose lawfully prescribed medicinal liquor is lost through accident, theft or unauthorized consumption by some other person, without fault on the part of the patient, can replace the needed medicine. A minister whose sacramental wine is lost or stolen, or a manufacturer whose industrial alcohol disappears, without fault on his part, can, in the discretion of the Commissioner of Internal Revenue, obtain a new supply. The sick man whose medicinal liquor disappears without fault on his part can obtain no more; for the law vests in no one the right to authorize him to

obtain medicinal liquor in excess of the statutory quantities.

The only person to whom the law allows liquor in excess of the quantities stated is the patient who is suffering from alcoholism. The law authorizes him to obtain any quantity, *in an inebriate asylum*. Section 6, Title II, National Prohibition Act.

A Ten-Day Period as a Unit for Determining the Dosage of Liquor Has No Relation to Any Fact or Principle of Physiology, Pathology or Therapeutics, and Is Purely Arbitrary.

A ten-day period corresponds to no known cycle in the human economy. In the practice of medicine, dosages are not fixed on the basis of ten-day periods. In cases in which cumulative effects may occur, as in case of the administration of compounds of mercury, a considerable period of time may be recognized, in determining duration of administration; but alcohol is too rapidly absorbed and burned up in the tissues, or excreted, to come within the class of drugs having a cumulative action. Of a therapeutic dose only traces remain in the blood twenty-four hours after administration. According to Cushny:

> "Alcohol is absorbed rapidly, about twenty per cent. of that ingested being taken up in the stomach and eighty per cent. in the small intestine * * *. Traces remain in the blood for about twenty-four hours, but over ninety-five per cent. of that ingested is oxidized in that time." (*A Text Book on Pharmacology and Therapeutics*, by *Arthur R. Cushny*, 1924, p. 187).

Other teachers and writers might be cited to the same point.

In view of the fleeting character of the action of alcohol, it is impracticable for a physician, at the beginning

of any ten-day period, to look ahead and to determine what the needs of his patient will be throughout the coming ten days. It is impracticable, therefore, for a physician, having a pint of liquor at his command, and no lawful way of obtaining more, to know how to distribute that quantity to the best interest of his patient. If he distributes the entire amount evenly throughout the ten-day period, he may at no time get the therapeutic effect desired. If the physician withhold in the beginning the dose of liquor he knows the patient needs, for fear of having greater need later, he may do his patient an injury. If in the beginning of the ten-day period he draws on his statutory allowance of liquor regardless of future needs, a crisis in the latter part of the period may turn the scales against his patient.

If the quantity of liquor allowed by law was the maximum quantity that might be required by any patient, the ten-day period would be immaterial. But it is not. In fact, the statutory allowance does not even approach the amount recommended by reputable medical writers, as appears below.

The Maximum Dosage of Liquor Allowed by Law Has No Relation to Ordinary Standards of Dosage Based on Study, Observation and Experience, and Is Purely Arbitrary.

Liquor has been and is prescribed for so many purposes, to persons of such varied ages and habits, suffering from varied ailments, and under such varied conditions, that a statement of exact dosage seems impossible. Dosage in any case is based on medical observation and experience. If it has proved impossible for the medical profession after years of investigation, study, observation and experience, to lay down any hard and fast dosages how clearly impossible it is for any legislative body

to do so. In the present instance, too, a legislative body professing no expert knowledge seems to have attempted to lay down rules for dosage without, so far as the record shows, even seeking such knowledge through consultations with experts.

The one-pint limit on liquor seems to have been translated bodily into the National Prohibition Act from a revenue act; as if any standard suitable for revenue officers in the collection of taxes was necessarily a proper guide for physicians in the treatment of the sick. Even in the revenue law, however, the ten-day limit did not apply. Where it came from, no one seems to know. The limits placed on the amounts of vinous liquor and of alcohol by the Supplemental Act are manifestly based on the earlier standard fixed with respect to spirituous liquor.

One pint of liquor is equivalent to sixteen fluid ounces. As prescribed in the household, its equivalent is thirty-two tablespoonfuls. If this be distributed evenly over any ten-day period, the patient cannot have more than 3.2 tablespoonfuls a day, or, approximately, one tablespoonful three times a day. If the dose be increased at any time, the patient must get less at some other time, or maybe go altogether without it. If any alcohol is used for external application, the amount available for internal use is correspondingly diminished. As contrasted with the statutory limit, averaging 3.2 tablespoonfuls of spirituous liquor a day, or equivalent amounts of alcohol or vinous liquor, the doses recommended by disinterested medical writers of repute tell their own story. Some such doses are set forth below. The sources from which the dosages stated are drawn, and the qualifications of those who are quoted to speak on the subject, are stated in Exhibit "A", appended. Other writers might be cited to the same effect.

Benedict, in 1925, stated that about two and a half ounces of alcohol can be oxidized in the human body

daily, replacing other nutrients in the diet. Administered in the amount stated, the statutory ten-day allowance of alcohol will be exhausted in less than four days.

Cushny, in 1924, stated that alcohol may be given in the treatment of diabetes in quantities corresponding to one-sixth to one-third of an ounce of absolute alcohol every hour. If one-sixth of an ounce be given every hour for fifteen hours a day, the statutory ten-day allowance will be exhausted in about three days.

Francis Hare, in 1924, recommended that in the treatment of acute alcoholism, to avoid precipitating an attack of delirium tremens the amount of alcohol previously used by the patient be reduced at the rate of two ounces every twenty-four hours. If a patient has been taking more than a pint of whisky a day, this treatment could not be continued for more than one day, unless the patient could enter an inebriate asylum.

Sollmann, in 1922, stated the ordinary beginning dose of brandy as from one-fourth to one ounce every three hours, increasing the frequency as needed. Six one-ounce doses a day would exhaust the statutory ten-day allowance in less than three days.

Savill, in 1922, recommended doses of from four to twelve ounces of whisky in twenty-four hours in alcoholic patients suffering from pneumonia. Such doses, under the National Prohibition Act would carry the patient for from about one day to four days.

Hobart Amory Hare, in 1918, recommended whisky or brandy in doses of from one-half to two ounces every three or four hours, saying, "More than a pint in twenty-four hours is rarely required, but this amount often does great good and is not excessive if the patient is accustomed to its use and needs supporting treatment."

Vincent and Muratet, in 1918, reported that in France the average dose of alcohol is approximately three or four ounces in twenty-four hours.

Shattuck, in 1914, said that in typhoid fever three or four ounces of whisky need rarely be exceeded in twenty-four hours.

Elsner, in 1914, recommended in the treatment of lobar pneumonia Tokay wine in one-half ounce doses every half hour. Twenty half-ounce doses a day would exhaust in about three days the quart of wine allowed by law for a ten-day period.

Osler, in 1912, recommended in lobar pneumonia the use of from four to twelve ounces of whisky in twenty-four hours.

Purves Stewart, in 1912, in discussing the treatment of acute alcoholism said that in the case of a patient taking a bottle of whisky, equivalent to twenty-five fluid ounces, daily, it was advisable to cut the amount down by about four or five ounces daily. Such a patient, under the National Prohibition Act, could not get a supply to last him one day, unless he was so situated geographically and financially as to be able to enter an inebriate asylum.

Macdonald, in 1909, stated the reasonable daily range of the dose of alcohol as from six to nine ounces.

A comparison of the dosages stated above with the dosages allowed under the National Prohibition Act shows the inconsistency of the Act. The Act purports to allow the use of alcohol for medicinal purposes, but then denies the right to use it in doses that to many competent physicians seem adequate. It allows the use of the remedy, thereby acknowledging its necessity, but denies the right to use it in effective doses. The law in this respect may be aptly characterized—as it was characterized by Judge Bourquin with respect to its limits on the number of prescriptions a physician may issue within a given period, *U. S.* v. *Freund,* 290 Fed. 411,—as "an unreasonable mandate to malpractice."

Any Dosage Fixed on the Basis of Any One "Person" Without Regard to Age, Size, Habits, Physical Condition, and State of Health Is Arbitrary and Unreasonable.

Medical text-books and other medical literature commonly state the doses of medicinal agents as average doses, and this average dose is merely suggestive. The physician fixes his initial dose according to the age, size, habits and physical condition of the patient, and then increases or decreases the dose until he obtains the desired result. Since the enactment of the National Prohibition Act and the Supplemental Act, however, he may prescribe liquor and increase the dose in the hope of obtaining some desired therapeutic results; but when he has reached his statutory maximum dose he must abandon his effort. If the result has not been obtained, so much the worse for the patient.

One pint of liquor in ten days, for internal and external use must, under the statutes, suffice for a weakling; not one drop more is available for a two-hundred-pound adult.

Any person suffering from a "cold" may lawfully be given a pint of whiskey in ten days, or in one day, for that matter, if the physician thinks it necessary; the same person, suffering from pneumonia, can have one pint, and one pint only, no matter what the physician or a dozen physicians think. Congress has prescribed the dose.

A ninety-pound woman who has been a total abstainer all her life, who has pneumonia, can be given one pint of whiskey in ten days; a husky dock laborer, weighing 250 pounds and accustomed to liquor, can have not one drop more, even though delirium tremens result from the withdrawal of his customary allowance of alcohol.

Argument seems hardly necessary to show that any statutory system of dosage that creates such situations is arbitrary and unreasonable, but specific evidence of the arbitrary and unreasonable character of the statutory dosage can be found in the law itself; for the law admits that inebriates undergoing treatment may need more liquor than the normal statutory dosage. Then, curiously enough, the law says that even inebriates may have the necessary excess allowance only on conditions that are open to but few. An inebriate who can enter a *bona fide* hospital or sanitorium engaged in the treatment of persons suffering from alcoholism can have alcohol without reference to statutory dosage. If he has not the money to pay for treatment in a hospital or sanitorium and can not procure such treatment by charity, or if no inebriate hospital or sanitorium is at hand, even he must die if it takes more than one pint of liquor in ten days to save his life; for no hospital or sanitorium of any class other than that favored by the statute can give him the excess alcohol, and no physician outside of such a hospital can prescribe it. Even in a station-house, work-house, or jail, where control of dosage is clearly possible the excess could not be lawfully given even to a person in the midst of an attack of delirium tremens. If unreasonableness and arbitrariness of dosage is sought, it is certainly found here.

Statutory Quantitative Limits on the Dosage of Liquor are a Bar to Progress and Possibly to Safety.

The statutory quantitative limits on the medicinal use of liquor destroy all opportunity to study in the United States, by experiment or by clinical observation, the effect of alcohol in preventing and curing disease when administered in doses exceeding such limits. Such limi-

tations will effectually prevent the adoption in the United States of any method of preventing or curing diseases that may be discovered in foreign lands, that calls for doses of liquor in excess of those fixed by the statutes. If it be claimed that such handicaps on the science and art of medicine and on the prevention and cure of disease are necessary to procure the social and economic advantages sought through the prohibition on the beverage use of liquor, the answer is that no such handicaps have been found necessary on the sacramental and industrial use. And if the prohibition of the beverage use of liquor actually prohibits—and here it must be presumed that it does—that circumstance implies, or should imply, not the need for limiting the medicinal use of liquor, but greater opportunity and safety in such use. For if prohibition on beverage use be effective, the physician can with safety prescribe liquor.

Statutory Quantitative Limitations on the Medicinal Use of Alcohol are Unnecessary, Discriminatory, Arbitrary and Unreasonable.

It may be contended that, notwithstanding all that has been said, the quantitative limitations Congress has imposed are reasonable and necessary to meet the ends in view, the prevention of the use of liquor as a beverage and that if, in order to effect that end, the sick suffer and some die, they merely pay the penalty for living in the social state. Any contention as to the necessity for statutory maximum doses in connection with the medicinal use of alcohol loses its force, however, when it is observed that no similar limitations have been found necessary on wines used for sacramental purposes and alcohol used in industry. The rabbi determines the quantity of wine needed, and he is entitled to it as a matter of right. The manufacturer determines the necessary

amount of alcohol—for instance, liquor for the making of ice cream and ices, Section 860, Regulations 60 etc.,—and if he satisfies the Prohibition Commissioner that it is needed, and that the end of the product will be a lawful one, he is entitled to it. But not so the physician. He may argue and plead for the welfare of his patient; he might even convince the Commissioner of the justice of his cause; but it would be of no avail, for the Commissioner himself is powerless.

On the rabbi, minister, priest and manufacturer, Congress has imposed regulation. On the physician, Congress has imposed prohibition. Why? For no discoverable reason. The distinction is arbitrary and unreasonable. The medical profession does not seek freedom from regulation and supervision. The good name of the profession will be best safeguarded by some such control; but it does protest against the prescribed statutory dosages of liquor as arbitrary and unreasonable. If such prohibitions are not necessary to confine sacramental and industrial alcohol in sacramental and industrial channels, neither are they necessary to confine medical alcohol in medical channels. If regulations are sufficient to control sacramental and industrial alcohol, they are sufficient to control medical alcohol.

True, the rabbi, priest and minister, and the manufacturer, can be required to show the Commissioner the need for any given quantity of liquor before he is permitted to obtain it, while the physician's patient cannot wait for any such formality. But if the Commissioner cannot pass judgment on the good faith and discretion of the physician before his prescription is filled, he can do so afterward. The physician's prescriptions even now can be inspected in the pharmacies where they are compounded. The physician himself is required to keep records that are open to inspection. He is required to file with the Prohibition Administrator a copy of every

prescription he issues. Unless he does so, he cannot get additional official prescription blanks, and without such blanks he cannot prescribe. If he should hereafter under some conditions be required to file copies of his prescriptions with the Prohibition Administrator immediately after issue, in order to permit prompt investigation to be made, if deemed necessary, this can easily be required by regulation.

The physician whose conduct is even under suspicion may be summoned by the Commissioner of Internal Revenue or his representative to explain his conduct, and if he has not in good faith complied with the law, his permit may be revoked (Section 9, Title II, National Prohibition Act), and he is liable to fine and imprisonment (Section 29, Title II, National Prohibition Act). To urge that such regulation is inadequate and that statutory quantitative limits are necessary in the case of the physician, while regulations alone adequately control priests, rabbis, ministers and manufacturers, hardly commands the respect of men of practical judgment.

Nor does the fact that the Prohibition Commissioner can pass judgment in advance on the needs of the minister, rabbi, priest and manufacturer, serve to justify the discrimination; for, after all, it is not what the permittee says he intends to do with the liquor he obtains that tells the story, but what he does with it. And it is certainly as difficult for the Commissioner to see that the minister, rabbi, priest, and manufacturer uses the liquor allotted to him, for the purpose stated in his permit, as it is for him to see that the liquor prescribed by a physician, which never comes into his possession, is used by the patient for the medicinal purpose stated in the prescription and on the physician's record. The supervision and control already recognized as adequate in the case of industrial and sacramental alcohol are no less adequate in the case of medicinal alcohol. Quantitative prohibitions

have not been found necessary in the one case, they are not necessary in the other. If they are not necessary they are arbitrary and unreasonable—and, it is respectfully submitted, unconstitutional.

Respectfully submitted,

WILLIAM C. WOODWARD,
on behalf of
AMERICAN MEDICAL ASSOCIATION,
as amicus curiae

EXHIBIT A.

Opinions of Physicians as to the Dosage of Alcohol, and Spirituous and Vinous Liquor.

That alcohol can be utilized as a food, supplying heat and energy, is now conceded. Benedict writes:

> "Thus it is definitely proved that alcohol in not too large doses—that is, about 72 grams (about 2½ ounces) per day—is oxidized in the human body and the energy that it furnishes in its oxidation may contribute to keeping the body warm, to replacing other nutrients in the diet, and possibly to the performance of muscular work. Seventy-two grams of alcohol contributing 500 calories to the daily ration are more completely burned than 500 calories supplied in the form of almost any other substance, with the possible exception of pure sugar. This has been demonstrated clearly by actual measurements of the heat output of man inside of a respiration calorimeter, first, when subsisting on an ordinary diet, not containing alcohol, and then under exactly the same experimental conditions when 500 calories of fat or carbohydrate, or both, were replaced by 500 calories of alcohol. The experimental evidence is extensive and admits of no controversy." *Alcohol and Human Physiology, by Francis G. Benedict, Nutrition Laboratory of Carnegie Institution of Washington, Boston, Mass., in Industrial and Engineering Chemistry, April, 1925, Vol. 17, page 423.*

Starling writes to the same effect:

> "The evidence that alcohol may serve as a direct source of muscular energy is as adequate as the evidence that fats can be so utilized.
>
> "These experiments show that an amount of alcohol equivalent to that in a bottle of claret can be given in the course of the day without inter-

fering with the normal metabolism, the alcohol functioning as an ordinary food and serving as a source of energy which may be used either for maintaining the heat of the body or for the production of muscular work." *The Physiologic Action of Alcohol, by Professor Ernest H. Starling, C. M. G., M. D., F. R. C. P., Fouderton Professor of Physiology, Royal Society; Harveian Orator, Royal College of Physicians, 1923; late Scientific Adviser to the Ministry of Food, etc. in the Practitioner, London, October, 1924, Volume 113, page 230.*

Whether alcohol be or be not undesirable as a food for persons in health, there seems to be no adequate reason for rendering it unavailable for food purposes in the treatment of the sick. The amount stated above by Benedict as susceptible of utilization daily as a source of heat and energy would exhaust the statutory, maximum 10-day allowance in less than four days.

In his Text-book of Pharmacology and Therapeutics, copyright in 1924, Cushny writes concerning the food value of alcohol as follows:

"Alcohol, therefore, acts as a substitute for carbohydrates (starches and sugars) and fat in the food and is utilized like them for the production of heat and work. Higgins has shown that its oxidation begins about five to ten minutes after it is swallowed; the body begins to utilize it as quickly as it does ordinary sugar. *Page 188.*

* * * * * * * *

"The food-value of alcohol is unchanged by the presence of fever (Ott); it demands less energy from the digestive organs than fats and starchy foods, and has a higher value as a producer of energy than sugar. It cannot supply the place of the nitrogenous foods, but given along with them, may lead to a greater economy of the tissues. Strong wines or diluted spirits are generally employed here and ought to be given in small quantities frequently." *Page 197.*

In view of the present tendency to discredit the use of alcohol in septic conditions and acute fevers, the following statement from Cushny is of interest:

> "Alcohol was formerly advocated especially in septic conditions, and here it may be of value on the same grounds as in acute fevers, although it does not seem to have any specific action in septic disease, as was once believed. A protest has recently been raised against the use of alcohol in these cases, on the ground that animals subjected to alcohol succumb more readily to infection than controls which have received no treatment, but this increased susceptibility does not seem to be induced by doses proportioned to those in use in modern practice. In addition, this deleterious action may be more than compensated for by its value as a food and by its narcotic effects allaying the nervous irritability and promoting sleep; this narcotic action may very well be conceived to be of benefit to man, while prejudicial to animals." *Page 197.*

Concerning the use of alcohol as a food in the treatment of diabetes, Cushny says:

> "In the treatment of diabetes by the withdrawal of carbohydrates, alcohol has been advised to maintain the supply of energy, which it does without increasing the sugar of the blood and urine. Here wines or beers are not available, and pure alcohol diluted to about 5 per cent is the best form; it may be given in quantities corresponding to 5-10 c. c. (one-sixth to one-third of an ounce) of absolute alcohol every hour, and causes no symptoms, as it is completely oxidized in this time, and supplies 600 or more calories per day." *Page 198. A Text-book of Pharmacology and Therapeutics, by Arthur R. Cushny, M. A., M. D., LL. D., F. R. S., Professor of Materia Medica and Pharmacology in the University of Edinburgh; formerly Professor of Materia Medica and Therapeutics in the University of Michigan, and*

later in the University of London, 8th Edition, Philadelphia and New York, copyright, 1924.

The amount of alcohol that may be used as a food is stated in the British Pharmaceutical Codex as follows:

> "It is employed as a food both during fevers and in convalescence from fevers, but when used for these purposes the dose should not exceed 3 or 4 fluid ounces of alcohol per diem." *The British Pharmaceutical Codex, 1911, An Imperial Dispensatory for the Use of Medical Practitioners and Pharmacists. Published by Direction of the Council of the Pharmaceutical Society of Great Britain by the Pharmaceutical Press, London, 1911, pp. 79-80.*

The lower of the two doses named above will exhaust the statutory maximum ten-day allowance in less than 3 days.

Sollmann in discussing the use of alcohol in exhausting fevers says:

> "The amount must be governed by the previous habits of the patient; but astonishingly large quantities can often be given to fever patients without producing 'intoxication' even if they are unaccustomed to its use; the febrile organism probably oxidizing the alcohol more rapidly. Ordinarily one may begin with ½ to 2 tablespoonfuls (¼ to 1 ounce) of brandy in half a glass of milk, every 3 hours, increasing the frequency as needed." *A Manual of Pharmacology and its applications to Therapeutics and Toxicology, by Torald Sollmann, M. D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland, 2nd Ed. Philadelphia and London, copyright 1922, Page 648.*

One tablespoonful every 3 hours, for 6 doses a day, will exhaust the statutory ten-day allowance in less than

6 days. Doses of two tablespoonfuls would exhaust it in less than 3 days.

Hobart Amory Hare, in 1918, wrote:

> "In fevers of a typhoid type, the dose of whiskey or brandy may be for an adult from ½ to 2 ounces (15-60 c. c.) every three or four hours. More than a pint in twenty-four hours is rarely required, but this amount often does great good and is not excessive if the patient is accustomed to its use and needs supporting treatment." *A Text-Book of Practical Therapeutics, by Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College of Philadelphia, copyright 1918, pp. 81-82.*

The statutory ten-day allowance of whiskey or brandy obviously falls far short of supplying the needs of the patient as stated by Hare.

Dosages of alcohol suggested by American physicians since the enactment of the National Prohibition Act must be interpreted with the limitations of that Act in mind. A physician may well hesitate to recommend to his readers the use of alcohol in unlawful quantities even though he believes them advisable medically. And what he writes cannot be depended on to show whether he has stated doses in deference to the law or in deference to scientific knowledge. For instance, the ninth edition of Osler's Principles and Practice of Medicine, copyright in 1920, says nothing regarding the use of alcohol in the treatment of lobar pneumonia. The preceding edition, however, copyright in 1912, in discussing the treatment of pneumonia, says:

> "Alcohol is generally advisable, best as whiskey in amounts of 4-12 ounces in the twenty-four hours." *The Principles and Practice of Medicine, by Sir William Osler, BT., M. D., F. R. S., Fellow of the Royal College of Physicians,*

London, etc., with the assistance of Thomas McRae, M. D., Fellow of the Royal College of Physicians, etc., 8th Ed., New York and London, copyright 1912, p. 100.

In discussing the treatment of lobar pneumonia, Elsner says:

> "Finally, the alcoholic stimulant upon which I depend in severe asthenia is Tokay wine. Only the genuine Hungarian wine should be used. This is administered in tablespoonful (½ ounce) doses every half hour, and may be given with the ethereal stimulant when due. It has the decided advantage of containing an ethereal oil with a large alcohol content." *Forschheimer's Therapeusis of Internal Diseases, Edited by Frank Billings, S. M., M. D., Professor of Medicine, University of Chicago and Rush Medical College, copyright 1914; article on "Lobar Pneumonia," by Henry L. Elsner, Professor of Medicine, Medical Department of Syracuse University, Vol. II, page 254.*

Administration at this rate for 16 hours a day would exhaust the statutory ten-day allowance of wine, 1 quart or 32 ounces, in two days.

Dr. Francis Hare, Medical Superintendent of the Norwood Sanatorium, Beckenham, England, writes of the treatment of alcoholism by the reduction method as follows:

> "Certainly such a reduction as that made by myself in the past, namely from 26 fluid ounces or more to 8 or 10, and often still made by others, is amply sufficient to precipitate an attack of delirium tremens. The first reduction should never exceed 3 or 4 fluid ounces; the second should not much exceed, the third may be a little larger. But perhaps as a general rule the safest plan is to begin with the amount of established tolerance and subtract 2 ounces regularly every 24 hours." *The*

Practitioner, London, July-December, 1924, Vol. 113, pages 299-300.

Administered according to Hare's recommendation, the statutory maximum ten-day dosage of whiskey might not carry a patient suffering from acute alcoholism through even a single day, unless he could go to an inebriate asylum.

Purves Stewart writes as follows regarding the use of alcohol in cases of the treatment of acute alcoholism:

> "Both delirium tremens and alcoholic epilepsy may be prevented by avoiding sudden withdrawal of alcohol. Supposing the patient has been taking a bottle of whisky daily (equivalent to 25 fluid ounces), it is advisable to cut this down by about 4 or 5 oz. daily. Experience has shown that when this is done delirium tremens and alcoholic epilepsy hardly ever occur; more than this, if premonitory symptoms, such as restlessness, insomnia and tremor have already appeared, they may be aborted in some cases by temporarily raising the dose of alcohol." *A System of Treatment, Edited by Arthur Latham, M. A., M. D., Oxon.; F. R. C. P. Lond. Physician and Lecturer on Medicine, St. George's Hospital and T. Crisp English, M. B., B. S., Lond.; F. R. C. S. England, Senior Assistant Surgeon and Lecturer on Practical Surgery, St. George's Hospital. New York, 1912; article on "Alcoholism" by Purves Stewart, M. D., F. R. C. P., Physician to Out-patients, Westminster Hospital; Physician, West End Hospital for Nervous Diseases, Vol. I, pages 499-500.*

In discussing the treatment of pneumonia, Savill says:

> "Concerning alcohol, there is much difference of opinion. It is particularly indicated in alcoholic patients, for whom it should be used freely (4 to 12 ounces whiskey in 24 hours), and especially in conditions of collapse near the crises,

when it may tide the patient over so that he is out of danger before the subsequent depressing effects of the drug become manifest." *A System of Clinical Medicine by Thomas Dixon Savill, M. D., London, Sixth Edition, 1922, page 155.*

Regarding the use of whiskey in typhoid fever, Shattuck says:

"Three or four ounces of whiskey or its equivalent rarely needs to be exceeded during twenty-four hours; but cases now and then are met with in which it should be given, usually to tide over an emergency, up to the limit of toleration." *Forscheimer's Therapeusis of Internal Diseases, edited by Frank Billings, S.M., M.D., Professor of Medicine, University of Chicago and Rush Medical College, copyright 1914; article on "Typhoid fever," by Frederick C. Shattuck, A.M., M.D., Sc.D., LL.D., Jackson Professor of Clinical Medicine Emeritus, Harvard University.*

Vincent and Muratet, in discussing the treatment of typhoid fever and paratyphoid fevers, say:

"Alcohol in all its forms (wine, rum, cognac, liqueurs) is a good tonic. English physicians give doses of alcohol which we regard as excessive, sometimes more than a litre (quart) in 24 hours. In France an average of 80-100 grammes (3 or 3½ ounces) of alcohol is given. Frequent use is made of wine, chiefly champagne, which the patients tolerate and drink readily, especially when it is iced." *Medical and Surgical Therapy edited by Surgeon General Sir Alfred Keogh, K.C.B., C.B., LL.D., M.D., etc., New York and London, copyright 1918; article by H. Vincent and L. Muratet on "Typhoid Fever and Paratyphoid Fevers," page 143.*

Sollmann states the average dose of whiskey as ½ ounce, or 1 tablespoonful. *A Manual of Pharmacology and its applications to Therapeutics and Toxicology, by*

Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland, 2nd Ed., Philadelphia and London, copyright 1922, page 659.

The dosage of brandy and whisky for an adult, laid down by the National Standard Dispensatory, edited by Hobart Amory, Hare, B.Sc., M.D., Professor of Therapeutics and Materia Medica and Diagnosis in the Jefferson Medical College of Philadelphia, and others, 3rd Edition, copyright in 1916, page 136, is from ½ ounce to 2 ounces every 3 or 4 hours.

In his "Therapeutics, Materia Medica and Pharmacy," 12th Edition, Philadelphia, Copyright 1912, Samuel O. L. Potter, A.M., M.D., M.R.C.P., London, formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco, in discussing "Alcohol," page 102, gives the doses of whiskey and of brandy as from ¼ ounce to 2 ounces and the dose of white or red wine as from 1 ounce to 4 ounces.

James Macdonald, M.A., M.D., President of the Border Counties Branch of the British Medical Association, in an address "On the Remedial Use of Alcohol," reported in the British Medical Journal, January 30, 1909, page 267, named doses that would exhaust our present statutory ten-day allowance in 2 or 3 days, saying:

> "But in whatever form alcohol is applied the dosage must be definite—6 to 9 ounces being a reasonable daily range for an adult—its employment must be subject to frequent revision, and it must be at once withdrawn when the object for which it was given is attained."

As to the amount of alcohol necessary to produce intoxication, Benedict writes:

> "A moment's reflection with regard to the amount of alcohol that can be taken by a man at one time without incipient intoxication shows that,

according to laboratory experience, the equivalent of 20 to 30 cc. (⅔ to 1 ounce) of pure alcohol may be taken in this way by the average man, even on an empty stomach, without obvious signs of incipient intoxication. This is quite irrespective of whether the man is used to alcohol." *Alcohol and Human Physiology, by Francis G. Benedict, Nutrition Laboratory of Carnegie Institution of Washington, Boston, Mass., in Industrial and Engineering Chemistry, April, 1925, Vol. 17, page 426.*